

# .VISUAL CONTRAST SENSITIVITY (VCS)

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**Visual contrast sensitivity (VCS) testing measures your ability to see details at low contrast levels and is often used as a nonspecific test of neurological function. At TNHC, the VCS testing is often a very useful biotoxin screening tool.**

**Abnormalities documented by visual contrast sensitivity (VCS) testing. VCS testing measures your ability to see details at low contrast levels. Dr. Shoemaker and Dr. Ken Hudnell—a principal investigator for the U.S. EPA’s National Health and Environmental Effects Research Lab and an expert on how neurotoxins affect the physiology of vision—discovered that the biotoxins affect the optical nerve and decrease the ability to detect visual contrast.**

## **Visual Contrast Sensitivity Testing**

### Overview of Visual Contrast Testing

Visual Contrast Sensitivity testing, or VCS test, is commonly known as Visual Contrast Testing and was originally developed by the U.S. Military Medical Services as a visual assessment for jet fighter pilots. It is a testing measure for the ability to see details at variable contrast levels of grey. While in fact it is a nonspecific test of neurological immune functional assessment- it was found to possess a high degree of accuracy and sensitivity for biotoxin exposure. The test entails the presentation of a series of images of decreasing contrast to the test subject and the recording of the contrast levels where patterns, shapes, or objects can or cannot be identified. The results of the test can then be used as an aid in the diagnosis of Neuro-visual system defects.

### **Factors that May Affect How we Perceive Contrast**

As it is a nonspecific test, anything that may affect the ability to perceive contrast will convey an abnormal result.

Common causes might be due to following underlying abnormalities:

1. Nutritional deficiencies- whether pure or a result of alcohol consumption
2. Neurotoxin exposure could have numerous causes including but not limited to:

- Animal and insect bites with venom/saliva inoculation
- Heavy metals such as Lead and Mercury
- Lyme Disease and associated Viral, Bacterial, Fungal and Parasitic infections
- **Mold Exposure and Exposure to Volatile organic compounds**
- Body-produced toxins

VCS testing, by itself, is generally not diagnostic for any specific condition (including either mold or neurotoxin exposure), but a positive result may suggest the existence of a health and life-affecting clinically obvious or hidden underlying cause.

However, if a positive result is obtained, a further thorough workup is needed to pinpoint an exact cause. For this to occur compliance is of utmost importance as a large role falls on the patient for clear

and accurate symptom reporting, to performing adjunctive tests, environmental observation/control, and strict diet and medication adherence.

### **How does VCS testing work?**

VCS testing involves the presentation of a series of images of decreasing contrast to the patient, and the recording of the contrast levels where patterns, shapes, or objects can or cannot be identified.

The ability to detect contrast is part of the brain's function. Contrast is your ability to discern black from white, and also between different shades of gray. Toxins affect nerves, and we can measure the optic nerve by checking its ability to see finer and finer degrees of contrast. *Toxins reduce blood flow to the nerves, effectively decreasing oxygen.* In later stages; it can cause blurred vision and other functional problems. While the VCS test is not diagnostic, it does give us an idea of what might be important in your treatment, and also gives us a point of reference for future improvement.

### **What does a VCS involve?**

A VCS test is a simple eye exam to test the sensitivity of your eyes to contrast. A small board with circular areas of slanted lines in varying levels of contrast is held at a specified distance from your eyes. You cover first one eye and test, then the other. Similar to a regular eye chart, you read across the columns and down the rows, stating the direction you see the fine lines slanting, until you no longer can see the contrast. The Technician will record your findings and present your practitioner with your result.

### **How does VCS help me?**

While the VCS test is not diagnostic of a specific problem, it does give us an idea of what might be important in your treatment, and also gives us a point of reference for future improvement.

### **How often do I need to do a VCS test?**

The frequency of a VCS test will depend on how your treatments are going. Your practitioner may have you do multiple VCS tests to track your progress on certain treatment protocols.